

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously Presented) A data receiver for receiving user data and reference data coming from a transmitter via at least a channel, the data receiver, comprising:

means for unscrambling data;

means for despreading unscrambled data;

means for analyzing a characteristic of the channel;

a plurality of rake fingers of the data receiver, each rake finger comprising:

means for respectively evaluating the contribution of interferences of data caused by the channel said means for respectively evaluating the contribution of interferences including a plurality of correlators, wherein each correlator receives scrambling codes of other links that contribute to the interference; and

subtractor means for cancelling the contribution of interference in the user data for the rake finger, using the respectively evaluated interferences in each path of the rake finger, said subtractor means being placed before said unscrambling means.

2. (Previously Presented) The data receiver of claim 1, wherein the data are in compliance with the UMTS standard.

3. (Previously Presented) The data receiver of claim 2, wherein the reference data are provided by the CPICH channel.

4. (cancelled)

5. (Currently Amended) ~~The method of claim 4, further comprising the steps of:~~

A method for receiving user data and reference data coming from a transmitter via at least a channel which causes interference in the user data, the method comprising the steps of:

analyzing the characteristic of the channel by using the reference data;

determining an evaluation of interference of data provided in each path by the channel in each of a plurality of rake fingers by combining output of a plurality of correlators, the number of correlators corresponding to the number of paths for the channel wherein each correlator receives scrambling codes of other links that contribute to the interference;

subtracting the evaluation of interference from the received user data in each of the plurality of rake fingers;

unscrambling the user data received via each of the plurality of rake fingers;

adding the determined evaluation of each path in each of the plurality of rake fingers together to determine interference in the rake finger, wherein subtracting the evaluation of interference includes subtracting the determined interference in each of the plurality of rake fingers from user data processed via each of the plurality of rake fingers; and

providing an output representing interference-corrected user data for unscrambling, and wherein unscrambling includes unscrambling the interference-corrected user data output.

6. (cancelled)

7. (cancelled)

8. (Previously Presented) The data receiver of claim 1, wherein the means for respectively evaluating the contribution of interferences further comprising:

an interference estimator for each path in the rake finger, each interference estimator including a correlator adder to add the output of each correlator, and

an interference adder to add the output of the interference estimator for each path; and

the subtracter means is coupled to receive an output from the interference adder, adapted to subtract the output of the interference adder from the user data to provide a subtracted user data output, and coupled to provide the subtracted user data output to the means for unscrambling data.

9. (cancelled)

10. (Previously Presented) The data receiver of claim 1, wherein the means for respectively evaluating comprises an adder to add an output of the interference estimators; and

the subtracter means is located after the adder and adapted to receive and use an output from the adder to subtract interference from user data processed via the rake finger.

11. (Previously Presented) A rake receiver for processing a received data signal, the rake receiver, comprising:

a plurality of rake fingers, each of the rake fingers comprising:

an interference estimator to determine the interference in the path wherein each interference estimator includes a plurality of correlators, each correlator receiving scrambling codes of other links that contribute to the interference;

an adder to add the determined path interferences from the interference estimators;

a subtracter to subtract the added interferences from the received data signal to provide a corrected output corresponding to the received data signal with the interferences subtracted therefrom; and

an unscrambler to receive and unscramble the corrected output to provide an unscrambled output;

a despreader to receive and despread the unscrambled output to provide a despread output; and

a combiner to combine the despread output with outputs from others of the plurality of rake fingers.

12. (Previously Presented) The rake receiver of claim 11, each of the interference estimators, further comprises:

a plurality of correlators, each correlator adapted to generate an interference estimate for all $j-1$ paths in the received data signal, where j is not equal to the path of the finger in which the correlator is located; and

an adder to add the output of the plurality of correlators, and to provide the output as the determined path interference for the interference estimator.

13. (Previously Presented) The rake receiver of claim 11, further comprising:
a conjugate device to evaluate the conjugate of a scrambling code for the data signal, and

wherein the unscramble uses the evaluated conjugate to unscramble the corrected output.

14. (Previously Presented) The rake receiver of claim 11, wherein at least one of the correlators comprises:

a channel multiplier to multiply channel coefficients by a value of a channel symbol for the received data signal;

scrambling multipliers $M(-N)$ and $M(+N)$ to multiply an output from the

multiplier with a scrambling code of a parasitic link delayed in accordance with a delay of the link;

operators $p(-N)$ to $p(+N)$ to operate on the output of the scrambling multipliers, where N corresponds to a number of interference coefficients p , each coefficient being generated by a cross-correlation of transmitting and receiving filters used for respectively transmitting and receiving the data signal; and

an adder to sum the output of the scrambling multipliers as applied to the operators to provide the output of the correlator.